

**REMARKS**

Reconsideration of this application, as amended, is respectfully requested.

**I. Status of the Claims**

Claims 1-15 are pending in this application.

**II. Objections to the Specification**

In the Office Action, the Examiner objected to the Title of the Invention as not being descriptive. In response, applicant has changed the title to "Configurable Heating Pad Controller" to reflect the inventions user selectable heating levels and modes of operation as indicated in claim 1.

**III. Rejections Under 35 U.S.C. § 103(a)**

Claims 1, 3 and 4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable for obviousness over U.S. Patent No. 5,708,256 to Montagnino et al. (hereinafter "Montagnino") in view of U.S. Patent No. 4,243,875 to Chang (hereinafter "Chang").

The Examiner states that that Montagnino discloses a controller for a heating pad which uses duty cycle control and includes fast heat-up in a predetermined time. The Examiner admits that Montagnino does not disclose using a counter in the oscillator circuit to effect the timing. However, the Examiner states that Chang discloses a counter-based control scheme to effect the timing (two one-shot monostable circuits 42 and 44) and that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Montagnino's heating pad controller to specifically use a counter-based control scheme to effect timing as taught by Chang.

Applicants respectfully traverse the above rejection. Applicants submit that Chang does not teach or suggest using a counter to count oscillations of an input frequency signal as suggested

by the Examiner. Rather, the duration of the ON time of Chang's resistive heating element is controlled by a monostable multivibrator circuit. Monostable multivibrators (also known as one-shots) are digital devices similar to flip-flops, but with only one stable state where they remain until triggered by an input signal. The behavior of a one-shot is that the input is a trigger which causes the output to make a transition from the stable to the unstable state, where it remains for a length of time (t), and then reverts back to the stable state. As the term "one-shot" suggests, one "shot" from the trigger creates a change in the output. While one-shots are conventionally used in timing applications and for small-scale sequencing circuits, their precision is less than that available from oscillator-based circuits, such as that disclosed in the present invention. Furthermore, as opposed to counters, one-shots require a triggering input and operate by charging an external capacitor with a current set by an external resistance. If there is no triggering input, the one shot stays in its stable condition (which is the off-state) and the output stays at zero until triggered. Applicants submit that this distinction between Chang on the one hand and the present invention on the other hand is a fundamental difference.

Claims 2 and 5-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Montagnino in view of Chang and in further view of U.S. Patent No. 4,383,254 to Gemmell (hereinafter "Gemmell").

The Examiner states that Montagnino in view of Chang discloses a heating pad controller as set forth above with the exception of using LED's as an input selector means. The Examiner states that Gemmell teaches such an expedient and that it would have been obvious to one of ordinary skill in the art to modify a heating pad controller as taught by Montagnino in view of



Gemmell goes on to state:

To adapt the apparatus to serve as a convenient means of communication, the switch unit is coupled to the matrix by a microprocessor equipped with ... a RAM in which sets of position coordinates of the matrix can be temporarily stored and recalled under the control of the user so that the user can write a message into the RAM by selecting a sequence of matrix positions corresponding to a sequence of words visible displayed at respective LEDs and subsequently recall and display the message by selecting a read position in the matrix.

*See* Gemmell, Column 2, lines 45-55. According to the above excerpt, the switch does the selecting and not the LEDs themselves.

Regarding claims 7 and 8, the Examiner states that use of a Schmidt trigger and skip latch are obvious choices in design for the artisan in consideration of the widespread use of the same in heating control systems.

Claims 7-8 depend from claim 3. Thus, these claims are patentable for at least the reasons presented above for claim 3.

## CONCLUSION

In view of the above amendments and remarks, it is believed that claims 1-15 are in condition for allowance and it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

If there are any other issues remaining which the Examiner believes could be resolved through either, a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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